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10/808,922

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EXAMINER

DANIELSEN, NATHAN ANDREW

ART UNIT

PAPER NUMBER

2627

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/808,922 | Applicant(s) AKAHOSHI ET AL. | |
| | Examiner Nathan Danielsen | Art Unit 2627 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7 and 10-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7 and 10-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1, 3-7, and 10-14 are pending. Claims 2, 8, 9, 15, and 16 were canceled in applicant's amendment filed 14 August 2007.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 23 February 2008 has been entered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3-6, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osakabe (US Patent Application Publication 2002/0150394), in view of Fennema et al (US Patent 5,425,013; hereinafter Fennema), and further in view of Tsukamura et al (US Patent 5,157,642; hereinafter Tsukamura).

Regarding claims 1 and 13, Osakabe discloses an optical disk apparatus (and associated method) (figures 1 and 5) for recording data on a recordable optical disk having a power calibration area and a recording management area both located on an inner periphery thereof, and a mirror area located radially inwardly of the power calibration area and the recording management area (elements 18, 22, 24, and 32 in figure 3), comprising:

a laser diode for emitting a laser beam (inherent in element 36 in figure 5);

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a laser diode driver module for driving said laser diode (element 40 in figure 5);
an objective lens for constricting the laser beam (inherent in element 36 in figure 5);
objective lens driving means for driving said objective lens in a radial direction of said recordable optical disk (inherent in element 48 in figure 5); and
control means for controlling said laser diode driver module and said objective lens driving means (element 46 in figure 5),
wherein said control means controls said objective lens driving means such that the laser beam is irradiated on the mirror area but is not irradiated on the power calibration area or the recording management area while controlling said laser diode driver module for emitting the laser beam (inherent in recording/reproducing to/from element 28 in figure 3).

However, Osakabe fails to disclose where said laser diode driver module is controlled for emitting the laser beam to irradiate a mirror area located radially inwardly of the power calibration area and the recording management area along with the details of using a mirror area to adjust laser power.

In the same field of endeavor, Fennema discloses where said laser diode driver module is controlled for emitting the laser beam to irradiate a mirror area located radially inwardly/outwardly of the power calibration area and the recording management area (col. 3, lines 7-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have calibrated the power of an emitted laser beam while making use of an area on a radially inner side beyond the PCA and RMA, as taught by Fennema, for the purpose of preventing the calibration results from being skewed by a non-constant reflection signal by performing laser calibration in the mirror area of a disk (col. 3, lines 17-25). However, Fennema also fails to disclose the details of using a mirror area to adjust laser power.

In the same field of endeavor, Tsukamura discloses controlling the laser diode driver module by observing an optical amount of the irradiation for the purpose of adjusting laser power (col. 1, lines 42-53).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the functionality of Osakabe and Fennema with that of Tsukamura, for the purpose of controlling the intensity of the laser power (col. 1, lines 42-53).

Regarding claim 3, Osakabe, in view of Fennema and Tsukamura, discloses everything claimed, as applied to claim 1. However, Osakabe fails to disclose where said objective lens driving means is operable to cause said objective lens to seek a location close to an innermost periphery of the power calibration area and subsequently move said objective lens more radially inwardly than the power calibration area and the recording management area.

In the same field of endeavor, Fennema discloses where said objective lens driving means is operable to cause said objective lens to seek a location close to an innermost periphery of the power calibration area and subsequently move said objective lens more radially inwardly than the power calibration area and the recording management area (col. 3, lines 7-38; where, in Osakabe, the mirror area 18 is located close to and more radially inward than the PCA area 22).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have moved the pickup in whichever direction is necessary to find the mirror region after finding a point of reference on the disk, as taught by Fennema, for the purpose of preventing the calibration results from being skewed by a non-constant reflection signal by performing laser calibration in the mirror area of a disk (col. 3, lines 17-25).

Regarding claims 4 and 5, Osakabe, in view of Fennema and Tsukamura, discloses everything claimed, as applied to claim 1. Additionally, Osakabe discloses where said objective lens driving means includes a slider for roughly moving said objective lens and a tracking coil for finely moving said objective lens, wherein upon moving said objective lens radially inwardly beyond the power calibration area and the recording management area, said objective lens is roughly moved by using said slider and thereafter said objective lens is finely moved by means of said tracking coil (¶ 32).

Regarding claim 6, Osakabe, in view of Fennema and Tsukamura, discloses everything claimed, as applied to claim 1. Additionally, Osakabe discloses where the area located inwardly of the power

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calibration area and the recording management area and destined for irradiation with the laser beam is an area in which data cannot be recorded (§ 26).

5. Claims 7, 10-12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osakabe, in view of Wang et al (US Patent Application Publication 2002/0110065; hereinafter Wang) and Fennema, and further in view of Tsukamura.

Regarding claims 7 and 14, Osakabe discloses an optical disk apparatus (and associated method) (figures 1 and 5) for recording data on a recordable optical disk having a power calibration area , and a mirror area located radially outwardly of the power calibration area (figure 3; note also the mirror area 20), the optical disk apparatus comprising:

- a laser diode for emitting a laser beam (inherent in element 36 in figure 5);
- a laser diode driver module for driving said laser diode (element 40 in figure 5);
- an objective lens for constricting the laser beam (inherent in element 36 in figure 5);
- objective lens driving means for driving said objective lens in a radial direction of said recordable optical disk (inherent in element 48 in figure 5); and
- a control circuit for controlling said laser diode driver module and said objective lens driving means (element 46 in figure 5),

wherein said control circuit controls said objective lens driving means such that the laser beam is irradiated on the mirror area but is not irradiated on the power calibration area nor on the recording management area while controlling said laser diode driver module for emitting the laser beam (inherent in recording/reproducing to/from element 28 in figure 3).

However, Osakabe fails to disclose where the power calibration area is located on a outer peripheral side of the disk and where said laser diode driver module is controlled for emitting the laser beam to irradiate a mirror area located radially outwardly of the power calibration area and the recording management area and the details of using a mirror area to adjust laser power.

In the same field of endeavor, Wang discloses a power calibration area located on a radially outer peripheral side (element 48 in figure 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the optical disk of Osakabe with the layout of the disk of Wang, for the purpose of obtaining optimum recording powers for the entire disk (¶¶s 6 and 7). However, Wang also fails to disclose where said laser diode driver module is controlled for emitting the laser beam to irradiate a mirror area located radially inwardly/outwardly of the power calibration area and the recording management area and the details of using a mirror area to adjust laser power.

In the same field of endeavor, Fennema discloses where said laser diode driver module is controlled for emitting the laser beam to irradiate a mirror area located radially inwardly/outwardly of the power calibration area and the recording management area (col. 3, lines 7-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have calibrated the power of an emitted laser beam while making use of an area on a radially inner side beyond the PCA and RMA, as taught by Fennema, for the purpose of preventing the calibration results from being skewed by a non-constant reflection signal by performing laser calibration in the mirror area of a disk (col. 3, lines 17-25). However, Fennema also fails to disclose the details of using a mirror area to adjust laser power.

In the same field of endeavor, Tsukamura discloses controlling the laser diode driver module by observing an optical amount of the irradiation for the purpose of adjusting laser power (col. 1, lines 42-53).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the functionality of Osakabe and Fennema with that of Tsukamura, for the purpose of controlling the intensity of the laser power (col. 1, lines 42-53).

Regarding claims 10 and 11, Osakabe, in view of Wang, Fennema and Tsukamura, discloses everything claimed, as applied to claim 7. Additionally, Osakabe discloses where said objective lens driving means includes a slider for roughly moving said objective lens and a tracking coil for finely moving said objective lens, wherein upon moving said objective lens outwardly beyond the power calibration area, said objective lens is roughly moved by using said slider and thereafter said objective lens is finely moved by means of said tracking coil (¶ 32).

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Regarding claim 12, Osakabe, in view of Wang, Fennema and Tsukamura, discloses everything claimed, as applied to claim 7. Additionally, Osakabe discloses where the area located radially outwardly of the power calibration area and destined for irradiation with the laser beam is an area in which data cannot be recorded (§ 26).

Response to Arguments

6. Applicant's arguments with respect to claims 1, 7, 13, and 14 have been considered but are moot in view of the new ground(s) of rejection.

Closing Remarks/Comments

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Danielsen whose telephone number is (571)272-4248. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:00 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph H. Feild/
Supervisory Patent Examiner, Art Unit
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Nathan Danielsen

04/21/2008